

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 0 920 179 A2

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
02.06.1999 Bulletin 1999/22

(51) Int Cl.⁶ H04N 1/00, H04N 1/21

(21) Application number: 98203819.2

(22) Date of filing: 12.11.1998

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE
Designated Extension States:
AL LT LV MK RO SI

- Moghadam, Omid A., c/o Eastman Kodak Co.
Rochester, New York 14650-2201 (US)
- Allen, James D., c/o Eastman Kodak Co.
Rochester, New York 14650-2201 (US)

(30) Priority: 24.11.1997 US 977383

(71) Applicant: EASTMAN KODAK COMPANY
Rochester, New York 14650 (US)

(74) Representative: Parent, Yves et al
KODAK INDUSTRIE,
Département Brevets,
CRT - Zone Industrielle
71102 Chalon-sur-Saône Cedex (FR)

(72) Inventors:
• Squilla, John R. c/o Eastman Kodak Co.
Rochester, New York 14650-2201 (US)

(54) Photographic system involving data collection from a communicating scene

(57) A photographic system involves the collection of data from a scene, e.g., a visitor attraction site, that is capable of interactive communication with a user. The attraction site stores content data related to the site, and the user communicates with the attraction site through a camera capable of communication with the site. Besides capturing an image associated with the site, the camera stores predetermined personality data that relates an interest of the user to at least a portion of the

content data and includes means for transferring the personality data to the attraction site. The camera further includes means for receiving and displaying the portion of the content data from the attraction site, and a user interface for selecting from the displayed content data that part which the user wants to keep. In this manner, information relevant to a user's interests about a photographed item can be easily requested, accessed and stored with the specific pictures that the user has captured.

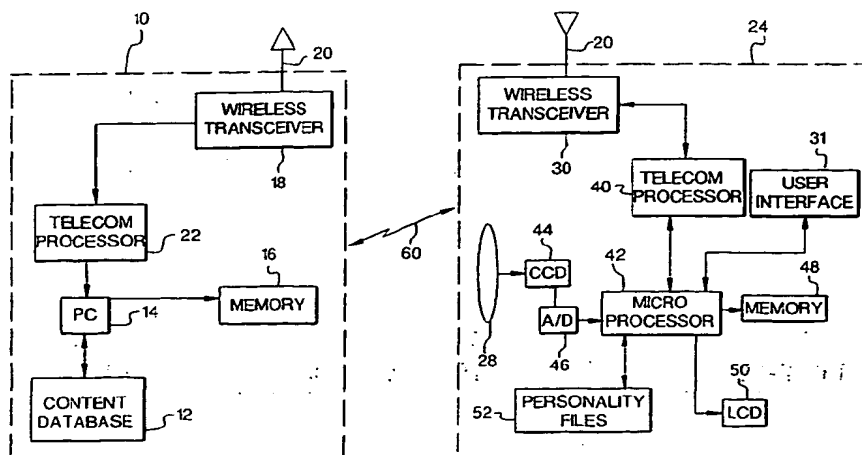


FIG. 1

Description**FIELD OF THE INVENTION**

[0001] The invention relates generally to the field of photography, and in particular to a photographic system including a camera that is capable of interactive data communication with sources of digital data associated with one or more scenes.

BACKGROUND OF THE INVENTION

[0002] It is known in the art that a film or an electronic camera can record image information on either a film or store the information in electronic memory. It is also known in the art that a wireless transceiver can be used to transmit and receive data. An example of such a device is shown in U.S. patent number 4,957,348. Digital cameras also have the capability of storing additional information along with the image. An example of a digital camera with such capability is the Kodak DCS 460 Digital Camera, which is capable of storing voice annotation and Global Positioning System (GPS) parameters along with the digital image. Moreover, the film used by the Advanced Photo System™, sold by Eastman Kodak Company and referred to as Advantix™ film, allows a camera to store digital information on a clear magnetic layer on the back of the photographic film. This feature is disclosed in U.S. patent number 5,194,892.

[0003] U.S. patent number 5,296,884 discloses a camera that can receive location coordinates, such as GPS signals, from a wireless source, and then convert that information to a location name such as a name of a city. The city name is then printed on the photograph after it has been processed. U.S. patent number 5,479,228 discloses a camera system with memory that can store a set of optional phrases such as "Happy New Year" and "Happy Birthday" which can be stored on the magnetic layer of Advantix™ film and printed on the photograph during the processing operation.

[0004] Serial No. 08/707,265, entitled "Tradeshaw Photographic and Data Transmission System", and filed on October 15, 1996 in the names of the same inventors and the same assignee as the present application, discloses a photographic and data transmission system including two main parts. The first part is a wireless communication system installed at a booth in a tradeshow for transmitting wireless information related to a product on display, such as the product name, company name, price and the Uniform Resource Locator (URL) address of the product source on the internet system. The other part of the system is a camera capable of receiving the wireless transmission. When the camera is brought into the vicinity of the booth and captures an image of the product, a trigger signal from the camera initiates transmission of the wireless signal from the tradeshow booth. The camera then stores the product data with the image or stores a URL address that can direct the user to more

information via the internet.

[0005] EP patent application number 640,938 describes a personalized image recording system intended to create still images or video collections for guests of amusement parks. Each guest is associated with a unique identifier in the form of a readable tag worn by the guest. When the tag is brought into the vicinity of an attraction, the tag triggers a camera located at the attraction to capture an image, e.g., of the guest. A communications network interconnects the cameras and tag readers with a central control system that creates collections of images, including the captured images and other prerecorded stock footage. The control system arranges the images, according to preferences of the guest, into collections that capture the experience of visiting the amusement park.

[0006] Digital images, captured by either a digital camera or digitized from images captured on film, can thus be used to create multimedia files. These files combine still images and other types of data such as text, graphics, audio and video. Gathering the extra digital information needed in creating a multimedia file is a time-consuming process. The Internet and World Wide Web has made that process easier, but much of the content useful for the multimedia files is copyrighted and not readily available on the Internet sites. Moreover, the user needs a multimedia computer to put the information together. The user also needs to locate the URL addresses of these information sites.

[0007] A particular problem is that the volume of information can overwhelm the casual user who is trying, e.g., to assemble a record associated with a particular event, say a visit to a theme park or a site in the National Park system. It would be desirable to find a convenient way to combine the information handling capability of modern cameras with image recording so that information relevant to a user's interests can be easily requested and accessed about a photographed item.

SUMMARY OF THE INVENTION

[0008] The present invention is directed to overcoming one or more of the problems set forth above. Briefly summarized, according to one aspect of the present invention, a photographic system involves the collection of data from a scene, e.g., an visitor attraction site, that is capable of interactive communication with a user. The attraction site stores content data related to the site, and the user communicates with the attraction site through a camera capable of communication with the site. Besides capturing an image associated with the site, the camera stores predetermined personality data that relates an interest of the user to at least a portion of the content data and includes means for transferring the personality data to the attraction site. The camera further includes means for receiving and displaying the portion of the content data from the attraction site, and a user interface for selecting from the displayed content

data that part which the user wants to keep.

[0009] In a further embodiment, the user of a camera interactively communicates with one or more attraction sites linked to a server and defining therewith a site/server subsystem. The site/server subsystem comprises means for storing content data related to the site, usually resident on the server, and communication means, usually resident at the attraction site, for receiving communications from the camera and for transferring the content data to the camera. Besides capturing an image associated with the site, the camera includes means for storing predetermined personality data that relates an interest of the user to at least a portion of the content data and communication means for transferring the personality data to the site/server subsystem.

[0010] The advantage of the invention is that it provides a convenient way to combine the information handling capability of modern cameras with image recording so that information relevant to a user's interests about a photographed item can be easily requested and accessed. In particular, it allows a visitor to customize the information available for downloading at an amusement site to a specific set of interests, and to combine that information with the specific pictures that the visitor has captured. The result is a unique product that relates the experience of visiting an amusement park or the like to an individual set of interests.

[0011] These and other aspects, objects, features and advantages of the present invention will be more clearly understood and appreciated from a review of the following detailed description of the preferred embodiments and appended claims, and by reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] FIG. 1 is a block diagram of a first embodiment of a photographic and data transmission system according to the invention.

[0013] FIG. 2 is a block diagram of a second embodiment of a photographic and data transmission system according to the invention.

[0014] FIG. 3 is a block diagram of a film camera that can be used in the systems shown in Figures 1 and 2.

[0015] FIG. 4 is a flow diagram of the operation and downstream data processing of the photographic and data transmission system of Fig. 1 as used in connection with a digital camera.

[0016] FIG. 5 is a flow diagram of the operation and downstream data processing of the photographic and data transmission system of Fig. 2 as used in connection with a digital camera.

[0017] FIG. 6 is a flow diagram of the operation and downstream data processing of the systems shown in Figs. 1 and 2 as used in connection with a film camera.

[0018] FIG. 7 is a diagram of an exemplary data structure useful with the photographic and data transmission systems shown in Figs. 1 and 2.

DETAILED DESCRIPTION OF THE INVENTION

[0019] Because imaging devices employing film or electronic sensors are well known, as are networked communication systems, the present description will be directed in particular to elements forming part of, or co-operating more directly with, apparatus in accordance with the present invention. Elements not specifically shown or described herein may be selected from those known in the art. Certain aspects of the embodiments to be described may be provided in software. Given the system description as described in the following materials, all such software implementation is conventional and within the ordinary skill in such arts.

[0020] Beginning with Figure 1, a first embodiment of the photographic and data transmission system is shown to include two main parts, or subsystems. The first part of Figure 1 is a wireless communication component located at an attraction site 10, also referred to herein as an "image spot". An image spot is a specific location where a picture is likely to be taken, and additionally where a computer and a wireless communication system may be located. Such spots would include user-accessible viewing points within theme parks, amusement parks, sporting sites, National Park system sites, and the like. The image spot 10 in this embodiment is a stand-alone unit which includes a content database 12 for storing digital data, controlled with a personal computer 14 which contains a memory unit 16. A wireless communication subsystem includes a wireless transceiver 18 interchanging signals with an antenna 20 and a telecommunications processor 22. As a feature of the invention, the content database 12 contains a variety of information about the feature that qualifies as an image spot, and specifically information that would be of interest to a variety of viewers. Given its transmission capability, the image spot 10 functions as a "communicating scene", specifically by transmitting scene information of interest to a particular user.

[0021] The second part, or subsystem, of the photographic and data transmission system is a camera 24. Preferably, the camera is either a digital camera 24 as shown in Figure 1 (such as a Kodak DC120™ digital camera) or an Advantix™ film camera 26 as shown in Figure 3 (such as a Kodak Advantix™ 3700 camera). As shown in Figures 1 and 3, both types of cameras capture an image of an object through a lens section 28, and include a transceiver section 30 for communicating with the image spot 10. Both include a user interface 31 for communicating user commands to the camera, such as the desire to capture an image, and some type of processing modality, such as a microprocessor 42 or a logic control unit 38. As shown in more detail in Figure 3, the transceiver section 30 may include an infrared emitter 32 and an infrared detector 34 connected through a conventional IRDA interface 36 to the logic control unit 38. The transceiver section 30 in the digital camera 24 may also include an IR emitter-detector sys-

tem as shown in Figure 3; alternatively, both cameras may include other types of transceivers, such as a radio-frequency (RF) transceiver system. For the digital camera shown in Figure 1, the transceiver signal is intercommunicated between a telecommunications processor 40 and the microprocessor 42.

[0022] Referring to Figure 1, an image is focused by the lens section 28 upon a charge coupled device (CCD) image sensor 44, which generates an image signal from the captured image. The image signal is converted into a digital signal by an A/D converter 46, processed by the microprocessor 42 and stored in a memory 48. The memory 48 may take any number of conventional forms, including a removable memory such as a memory card or a small hard drive card. The image signal, as well as content data related to the image, may be viewed on a liquid crystal display (LCD) 50. As a further feature of the invention, personality data descriptive of the user is stored in a personality file 52. As will be explained, the personality data relates one or more interests of the user to at least a portion of the content data in the content database 12 at the image spot 10. The personality data is transferred through the transceiver section 30 to the image spot 10, and integrates with the content data base 12 to determine the desired content for the particular captured image.

[0023] In the case of the film camera 26 shown in Figure 3, the lens section 28 forms an image upon a photosensitive film 54. The film 54 preferably is an Advantix™ film including a magnetic portion 56 which can store the personality data, as well as additional data received by the transceiver section 30. Recording on the magnetic portion 56 is coordinated with a motion control interface 58 such that recording occurs when the film 54 is in motion, e.g., during film advance between exposures.

[0024] When the digital camera 24 or the film camera 26 is brought into the communicating range of the image spot 10, and a photograph is taken at that spot, an exchange takes place between the camera and the image spot 10 via a wireless link 60. More specifically, the camera 24 or 26 communicates the personality data in the personality file 52 to the image spot 10. The purpose of the personality file 52 is to indicate to the image spot 10 the type of data that the user is interested in. Such data could be information such as graphics, photographs, video/audio clips or reference material associated with the particular attraction site, e.g., a site at a theme park. The relevant information, which may be the actual content information or a pointer or like descriptor indicative of the content, is then communicated by the image spot 10 to the camera 24 or 26 via the wireless link 60 and, if the camera has the capability, may be viewed by the user on the LCD screen 50 (e.g., available on the digital camera 24). Besides actual content information, the viewed information could be a list indicative of the content. If the user wants to save the data, acceptance is signaled through the user interface 31 and the data is

stored in the memory in the camera. In the digital camera 24 the data is stored in the memory 48 along with the digital image, and in the film camera 26 the data is stored on the magnetic strip 56 along with a latent image on the film 54. Alternatively, a URL address for the data can be stored in the respective memory and the data may be downloaded via the internet at a later time. Besides indications of personal preference, the personality file 52 can also include account and transaction information, which will pay for the material subject to sale, such as copyrighted material.

[0025] For both types of cameras, the captured image is stored in an image recording memory (the memory 48 in the digital camera 24 or the magnetic region 56 in the film camera 26), where the selected content data is also stored and therewith appended to or associated with the image. In typical usage of this system, the user actuates a capture release in the user interface 31, the respective camera captures the selected image, the personality data is communicated to the image spot 10, and content data that correlates with the personality data is communicated back to the camera. In particular, the personality data would ordinarily not be transmitted to the image spot until the user actually captures an image. This allows the user to point the camera and to frame an image without initiating any data transfer between the camera and the image spot. Consequently, although it does not have to be the case, the image capture and the data transfer ordinarily occur contemporaneously, and substantially simultaneously. With the digital camera 24, the data transfer results in display of the correlated content, and the selected data is appended to the image data somewhat later in time. With the film camera, the data transfer results in appending the correlated content, or pointers to that content, to the image contemporaneously with image capture. (Although not specifically disclosed, it should be understood the camera may include a mode switch or the like so that the inventive features can be disabled, and the camera can operate conventionally to capture an image without triggering any communication between the camera and the image spot.)

[0026] In Figure 2, the system is part of an interactive telecommunication network allowing a user of a camera to interactively communicate with desired attractions through an image server 70. In particular, the network includes one or more image spots 10 at corresponding attraction sites linked to the server 70 and defining therewith a site/server subsystem. The site/server subsystem includes, either at the image spot 10 or the image server 70, the memory for storing content data related to an image associated with the site and the means for interconnecting the content data with captured images. For example, in a networked system as shown in Figure 2, the personality data in the personality file 52 in the camera 24 may only include a unique number identifying the user. Such a number can then be linked with actual (predetermined) interests in the image server 70. The central part of the site/server subsystem is

the image server 70, which receives order information from image spots and cameras over an extended area, e.g., around a theme park.

[0027] As shown in Figure 2, the image server 70 includes either wired or wireless links 72, 74a, 74b to the image spots and the cameras. The wired link 12 is applied to a microprocessor 76 through an interface 78, and wireless transmissions over the links 74a, 74b are received by a transceiver 80, through an antenna 82, and applied to a communications processor 84, which decodes the transmissions and applies the decoded transmissions to the microprocessor 76. The wireless link 74a is mainly intended to transfer content data and personality data between the image spot 10 and the image server 70. The wireless link 74b serves as a conduit for transfer of image data between the camera 24 and the image server 70. The content data is preferably stored in a content database 86 in the image server 70, although some, or all, content data may be stored at the image spot 10 in its content database 12 (which is shown in broken line in Figure 2 to indicate that its presence is optional). The image server 70 also includes a printer 88 for producing photographic images 90. In addition, the microprocessor 76 drives a writer 91 to provide customized media 92, such as compact disks (CDs), digital video disks (DVDs), or the like; an E-mail interface 93 to generate E-mail messages; and a custom album processor 94 to generate customized album prints 95.

[0028] The personality file of each user is input to the image server 70 at a registration site 97, such as an entrance booth at a theme park, where each user can directly interact with the image server 70 through an interactive data terminal 98, e.g., by entering biographical detail and responding to predetermined prompts based on typical visitor interests. This could also be done ahead of time via, e.g., e-mail or with the advance purchase of tickets. Then, in the interactive network shown in Figure 2, a plurality of registered users will capture their images at the various attraction sites, view the extra content requests sent to them from the image spot database 12 (as in Figure 1) or the content database 86 in the image server 70, and order a set of services such as albuming or prints from the image server 70. The image server 70 keeps track of all of the data and services requested during each user's visit to the park via the wired or wireless communication link with the image spot 10. At the end of the visit, the users can decide what services or content they want to order, and order those services and specify their method of delivery (e.g., via mail or e-mail). Orders could be placed upon leaving the theme park, e.g., at the registration site 97 or from a local hotel room or via the internet. The image server 70 may also receive the captured digital images via the same wireless link 74b from each user's digital camera 24 and combine these images with the requested content from the content databases 12 or 86. In cases where the image server 70 is out of the wireless range

to the camera represented by the wireless link 74b, all the communication, including images, may be routed through the wired telecommunication link 74a between the image spot 10 and the image server 70.

[0029] An important aspect of the invention is the provision of a customized personality file, which is either stored in the camera according to the embodiments shown in Figures 1 and 2, or optionally stored in the image server 70 in a personality file memory 96 (together with a user ID in the camera) according to a variation shown in connection with Figure 2. The information stored in the personality file is used by the respective processors 76, 14 in the image server 70 and the image spot 10 to choose content data as the user visits respective image spots and capture images; in the case of the networked system shown in Figure 2, the personality file is also used to later combine the chosen content data with the user's own images. The personality file contains a collection of information designed to inform an image spot about a visitor's particular interests, and may include the following:

- names of family members
 - names of other important individuals
 - addresses, phone numbers, E-mail addresses
 - ages (birth dates) of people in the file
 - educational backgrounds
 - specific interests, historical, natural, artistic, etc.
 - CRU at home/office
 - computer capability of named individuals
 - internet/on-line capability (including E-mail)
 - purpose of the current visit
 - interest in movie snippets
 - interest in sound bites
 - and so on.
- Interests can be derived from a variety of factors associated with the personality file. Besides a specific recitation of interests, the relative ages of the visitors can bias the content toward small children, adolescents, or adults. Content can automatically be tailored to those with home internet connections by, e.g., providing URL addresses. Educational backgrounds, e.g., elementary vs. graduate school or technical vs. artistic, can be used to sort and assign content - e.g., a technical presentation of the creation of a site vs. an artistic presentation of the architecture of the site. Movie clips and sound bites can be added depending on the wishes of the visitor. The aforementioned information is not intended to be exhaustive and many other types and usages of personality information would come to mind and are intended to be within the scope of this invention.
- [0030] As also shown in Figure 2, the personality file may be generated at some early stage in the visit to an attraction (such as at the registration site 97) and stored in a personality file memory 96 in the image server 70. In this scenario, the personality file 52 in the camera 24 or 26 would merely store a personal identifier that

uniquely relates the camera 24 or 26 to the particular personality file 96 in the file server 70. This personal identifier would then be exchanged with the image spot 10 in order to access the pertinent parts of the content data base 86 in the image server 70.

[0031] The content databases in the image spot 10 and the image server 70 contain large collections of information that would satisfy the interests of a large number of users with different interests. Such content information may include the following:

- collections of images
- collections of sounds
- collections of movies
- multimedia content
- reference information - historical, natural
- URLs for further related information
- cost information
- and so on...

The collections of images, sounds, and movies may be further subdivided into more specific collections directed toward groups, e.g., children, adolescents, and adults, or to subject matter, e.g., technical, artistic, natural, literary, architectural, personal preferences (e.g., sports, cars, recipes) and so on. Multimedia content may be provided according to the above subdivisions, e.g., textual material suitable for different age groups or for outlining different subject matter. The aforementioned content information is not intended to be exhaustive and many other types and usages of content information would come to mind and are intended to be within the scope of this invention. Other conventionally available information, such as date, time and global positioning (GPS) data, may also be provided by the camera independently of the personality files.

[0032] If a user's personality file is registered and stored at a central location, such as the registration site 97, then a file structure may be established at the registration site 97 (in combination with the user interface 98) in which part of the personality file is a unique identification number (UID) for the camera. An example of such a structure is shown in Figure 7, which shows the structure for a film or digital camera file header. In either case, the file includes an image data region 200 and an image header 202. In the image header 202, a unique ID field 204 assigns a unique entity to each camera by using a large number for the ID. A Camera/media ID field 206 represents the model, S/N, etc. for the camera and the film (if a film camera is used). The camera/media ID field 206 can be used to indicate what the camera system is capable of doing, e.g., whether the camera has an image review capability, such as the LCD 50. A vendor ID field 208 is a number that is used to represent a vendor (camera manufacturer) such as Eastman Kodak Company, and allows the unique ID field 204 and Camera ID field 206 to be unique to and assignable by the specific vendor (otherwise vendors would have to coor-

dinate unique numbers). It can also be used to recognize special processing needs for the vendor.

[0033] If the camera is to store content data, a content reference field 210 may be used to reference to at least some of the chosen content data, such as multimedia data, that is stored in the server 70 (e.g., sound #34356 or image #32349), so that large data files do not have to be stored in the camera. It can also be an address pointing to the data in the content data base 86 in the server 70, similar to a URL address, or it can be an actual URL address. A site ID field 212 refers to the owner of the content. If images in one camera were taken, e.g., to different theme parks, the site's ID reference number would make the content reference unique to each park. A services requested ID field 214 would reference, by image, special services such as albums, enlargements of the reviewed images or content. While Figure 7 suggests one file structure, the actual presence of data will depend on system capabilities and the type of camera used in the system.

[0034] In operation with a stand alone image spot and a digital camera, as shown in Figure 4, a photograph is taken at the image spot 10 using the digital camera 24 (step 100). The communication between the image spot 10 and the camera 24 using the data stored in the personality file 52 will determine what extra data is going to be used in the extra services requested by the user (step 102). This content can be uploaded to the camera 24 and selected using the preview function of the camera's LCD screen 50 (step 104). After the data is chosen (step 106), it is uploaded to the camera 24 using the wireless link (step 108). Alternatively, a reference address to the chosen content can be stored in a file header in the camera 24. In addition, a digital camera user could elect to download the URL address of the chosen content data (step 112) for subsequent retrieval (step 114) or to download the user e-mail address to the image spot 10 (step 116), and the extra data chosen is then sent to the users e-mail account (step 118).

[0035] In operation with a digital camera in a networked system as shown in Figure 5, the photograph is taken at the image spot 10 using a digital camera (step 160). The communication between the image spot 10, the camera 24, and the image server 70 using the data stored in the personality file will determine what extra data is to be used in performing the extra services requested (step 162). This extra data or content may be reviewed on the LCD display on the camera (step 164), and the user chooses the desired data (step 166). The image data for the captured images are sent to the image server 70 (step 168), and the information header of these digital files are then sent to the camera where they are stored in memory (step 170). The request for this data is then transmitted to the image server 70 at a central location (step 172) via a communication link (wired or wireless). At the central location, the images and other content are combined to create the albums and multimedia files as desired, including custom CDs, DVDs

(digital versatile disk) or E-mail.

[0036] In operation with a film camera 26, as shown in Figure 6, an user's personality file is registered and stored at a central location, such as the image server 70 (step 130). Part of this personality file is a unique identification number (UID) for the camera as shown in Figure 7. The images are taken using the film camera 26 at the image spots 10 around, e.g., the theme park (step 132). The communication between the image spot 10, the camera 26, and the image server 70 using the data stored in the personality file 52 will determine what extra data is going to be used in the extra services requested by the user (step 134). The extra information (or pointers to the information in the image server's database 86) is chosen at these image spots 10 and transmitted via the IrDA wireless link to the camera (step 136). The information or the location of this extra data (in the image server's database 86) is stored on the magnetic portion 56 of the film 54 (step 138). The film is then dropped off (step 140) at a processing center, where the film is processed and the extra services such as albuming and multimedia file creation are performed using the information saved on the magnetic coating of the film (step 144). If the information saved on the film is the location of the data, that data is downloaded after a telecommunication link (step 142) is established between the image server 70 and the processing center. If the processing center is the image server center (step 150), the information is on site, and there is no need for a telecommunication link. In either case, the user reviews the product, which can be done on-line (step 146).

[0037] The invention has been described with reference to a preferred embodiment. However, it will be appreciated that variations and modifications can be effected by a person of ordinary skill in the art without departing from the scope of the invention.

PARTS LIST

[0038]

- 10 image spot
- 12 content database
- 14 personal computer
- 16 memory unit
- 18 wireless transceiver
- 20 antenna
- 22 telecommunication processor
- 24 digital camera
- 26 film camera
- 28 lens section
- 30 transceiver section
- 31 user interface
- 32 infrared emitter
- 34 infrared detector
- 36 IrDA interface
- 38 logic control unit
- 40 telecommunications processor

- 42 microprocessor
- 44 CCD
- 46 A/D converter
- 48 memory
- 50 LCD
- 52 personality file
- 54 film
- 56 magnetic portion
- 58 motion control interface
- 60 wireless link
- 70 image server
- 72 wired link
- 74a wireless link
- 74b wireless link
- 76 microprocessor
- 78 interface
- 80 transceiver
- 82 antenna
- 84 communications processor
- 86 content data base
- 88 printer
- 90 prints
- 91 CD writer
- 92 CDs/DVDs
- 93 E-mail interface
- 94 custom album processor
- 95 custom albums
- 96 personality file memory
- 100-118 steps
- 130-146 steps
- 160-174 steps
- 200 image data region
- 202 image header
- 204 ID field
- 206 camera/media ID field
- 208 vendor ID field
- 210 content reference field
- 212 site ID field
- 214 services requested ID field

Claims

1. A camera that allows a user to interactively communicate with an attraction site that stores content data related to the site and communicates the content data to the camera, said camera comprising:
 - means for capturing an image associated with the site;
 - means for storing predetermined personality data that relates an interest of the user to at least a portion of the content data; and
 - means for transferring the personality data to the attraction site;
2. A camera as claimed in claim 1 wherein the camera further includes means for receiving the portion of

the content data from the attraction site.

3. A camera as claimed in claim 2 wherein the camera further includes means for displaying the portion of the content data received from the attraction site.
4. A camera as claimed in claim 3 wherein the camera further includes a user interface for selecting from the displayed content data that part which the user wants to keep.
5. A camera as claimed in claim 4 wherein the camera further comprises:

means for generating a signal indicative of the displayed content data which the user wants to keep; and
means for transmitting the signal to the attraction site.

6. A camera as claimed in claim 5 wherein the means for receiving further receives the content data from the attraction site which the user wants to keep.
7. A camera as claimed in claim 2 wherein the portion of the content data received from the attraction site comprises detailed information related to the site.
8. A camera as claimed in claim 2 wherein the portion of the content data received from the attraction site comprises summary descriptors representative of detailed information related to the site.
9. A camera as claimed in claim 1 wherein the personality data comprises a code identifying the user.
10. A camera as claimed in claim 1 wherein the personality data comprises a file of personality factors.
11. A camera as claimed in claim 1 wherein said means for capturing is an electronic sensor and said means for storing comprises an electronic storage element in the camera.
12. A camera as claimed in claim 11 wherein the captured image and the content data are together stored in the storage element.
13. A camera as claimed in claim 1 wherein the camera is a film camera using a photographic film and said means for capturing is an optical system for exposing the film.
14. A camera as claimed in claim 13 wherein the captured image and the content data are together stored on the film.
15. A photographic system allowing a user of a camera

to interactively communicate with desired attractions, said system comprising:

one or more attraction sites having:
means for storing content data related to the site; and
a transceiver for receiving communications from the camera and for transferring the content data to the camera;
said camera comprising:
means for capturing an image associated with the site;
means for storing predetermined personality data that relates an interest of the user to at least a portion of the content data; and
means for transferring the personality data to the attraction site.

16. A system as claimed in claim 15 wherein the transceiver means at the attraction site transfers the portion of the content data to the camera responsive to receipt of the personality data, and the transferring means at the camera comprises a transceiver for receiving the portion of the content data from the attraction site.

17. A system as claimed in claim 16 wherein the camera further includes means for displaying the portion of the content data received from the attraction site.

18. A system as claimed in claim 17 wherein the camera further includes a user interface for selecting from the displayed content data that part which the user wants to keep.

19. A system as claimed in claim 18 wherein the camera further generates a signal indicative of the displayed content data which the user wants to keep and the transceiver at the camera further transmits the signal to the attraction site.

20. A system as claimed in claim 19 wherein the transceiver at the attraction site transfers the content data which the user wants to keep to the transceiver at the camera.

21. A photographic system allowing a user of a camera to interactively communicate with desired attractions, said system comprising:

one or more attraction sites linked to a server and defining therewith a site/server subsystem, said site/server subsystem comprising:
means for storing content data related to the site; and
communication means for receiving communications from the camera and for transferring the content data to the camera;

said camera comprising:

means for capturing an image associated with the site;

means for storing predetermined personality data that relates an interest of the user to at least a portion of the content data; and

communication means for transferring the personality data to the site/server subsystem.

22. A system as claimed in claim 21 wherein the communication means at the attraction site transfers the portion of the content data to the camera responsive to receipt of the personality data, and the communication means at the camera further receives the portion of the content data from the attraction site.
23. A system as claimed in claim 22 wherein the camera further includes means for displaying the portion of the content data received from the attraction site.
24. A system as claimed in claim 23 wherein the camera further includes a user interface for selecting from the displayed content data that part which the user wants to keep.
25. A system as claimed in claim 21 wherein the means for storing the content data resides in each attraction site.
26. A system as claimed in claim 21 wherein the means for storing the content data resides in the server.
27. A system as claimed in claim 21 wherein the camera includes means for transmitting the captured images to the site/server subsystem.
28. A system as claimed in claim 27 wherein the site/server subsystem further includes a processor for combining the captured images with the content data.
29. A photographic method for allowing a user of a camera to interactively communicate with desired attractions, said method comprising the steps of:
 - storing content data related to an attraction site;
 - storing predetermined personality data in the camera that relates an interest of the user to at least a selected portion of the content data;
 - capturing the image associated with the site; and
 - communicating the selected portion of the content data to the camera.

FIG. 1 is a block diagram of a system 10 for allowing a user of a camera to interactively communicate with desired attractions. The system 10 includes a camera 12, a site/server subsystem 14, and a network 16. The camera 12 is connected to the site/server subsystem 14 via the network 16. The camera 12 includes a memory 18, a processor 20, a display 22, and a user interface 24. The site/server subsystem 14 includes a processor 26, a memory 28, and a network interface 30. The network 16 is a communication network that connects the camera 12 to the site/server subsystem 14. The camera 12 is used to capture images of attractions at a site. The site/server subsystem 14 stores content data related to the attractions and personality data related to the user. The network 16 transfers the personality data from the camera 12 to the site/server subsystem 14 and transfers the content data from the site/server subsystem 14 to the camera 12. The camera 12 displays the content data on the display 22, and the user interface 24 is used to select a portion of the content data to be communicated to the camera 12.

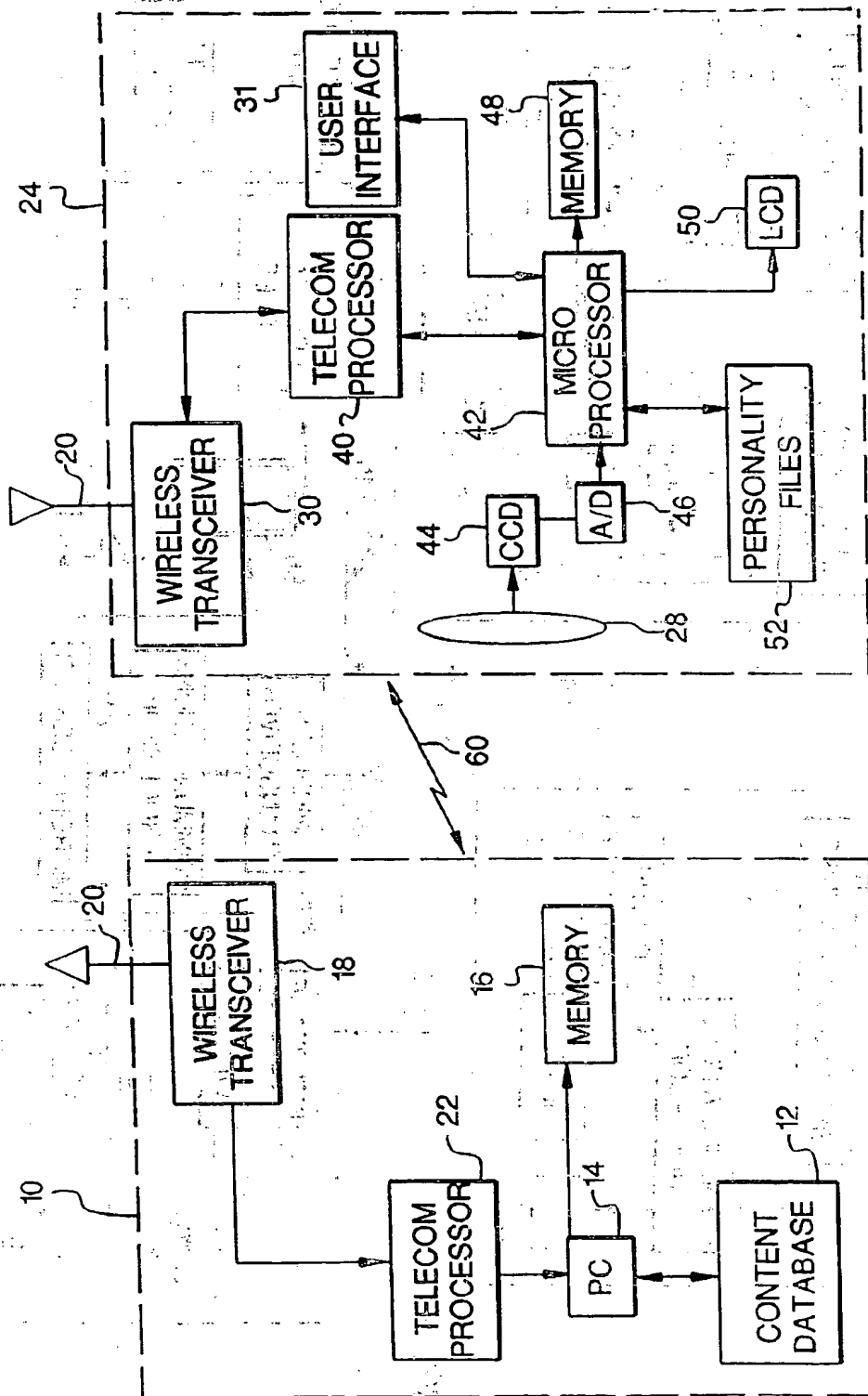


FIG. 1

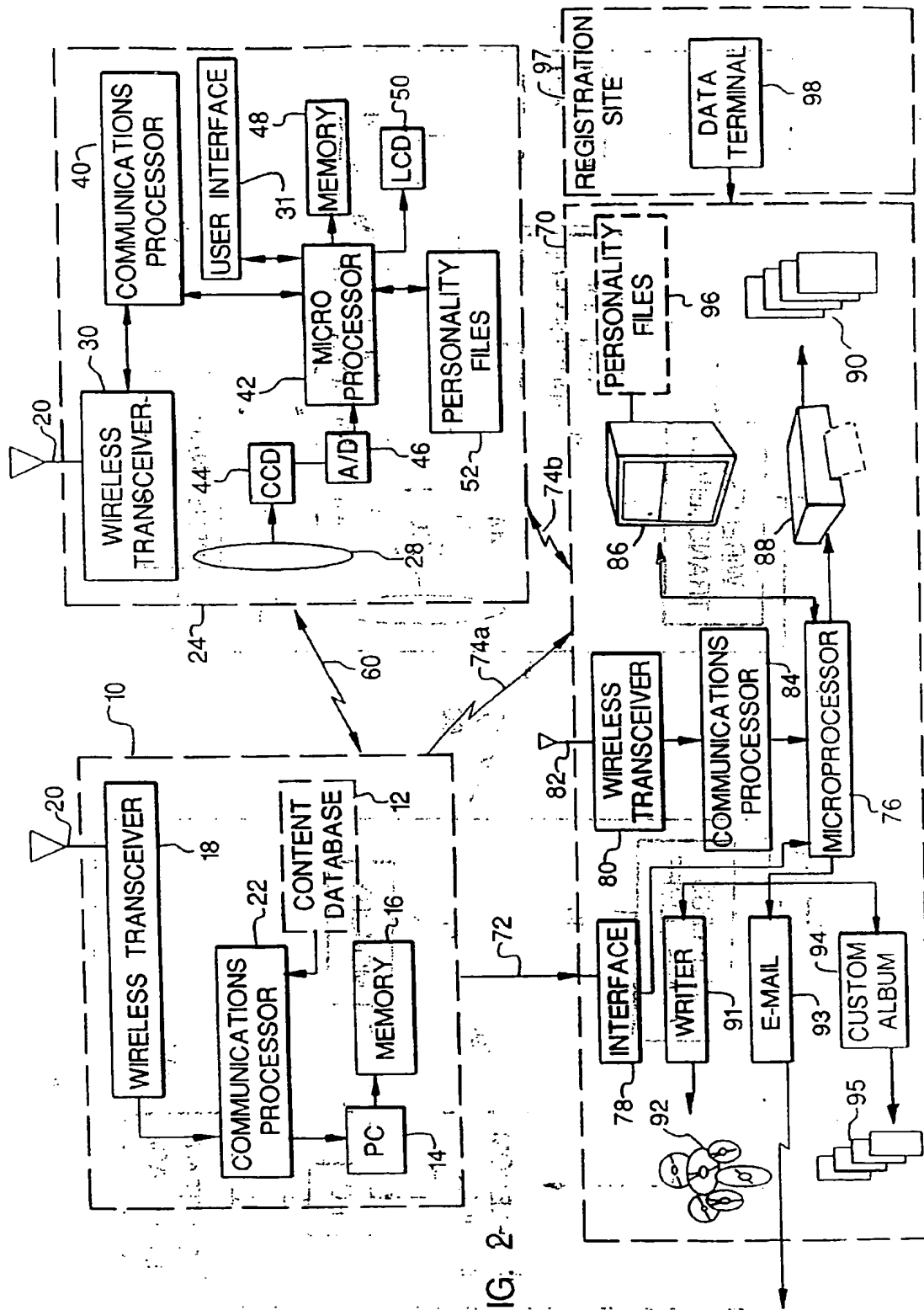


FIG. 2

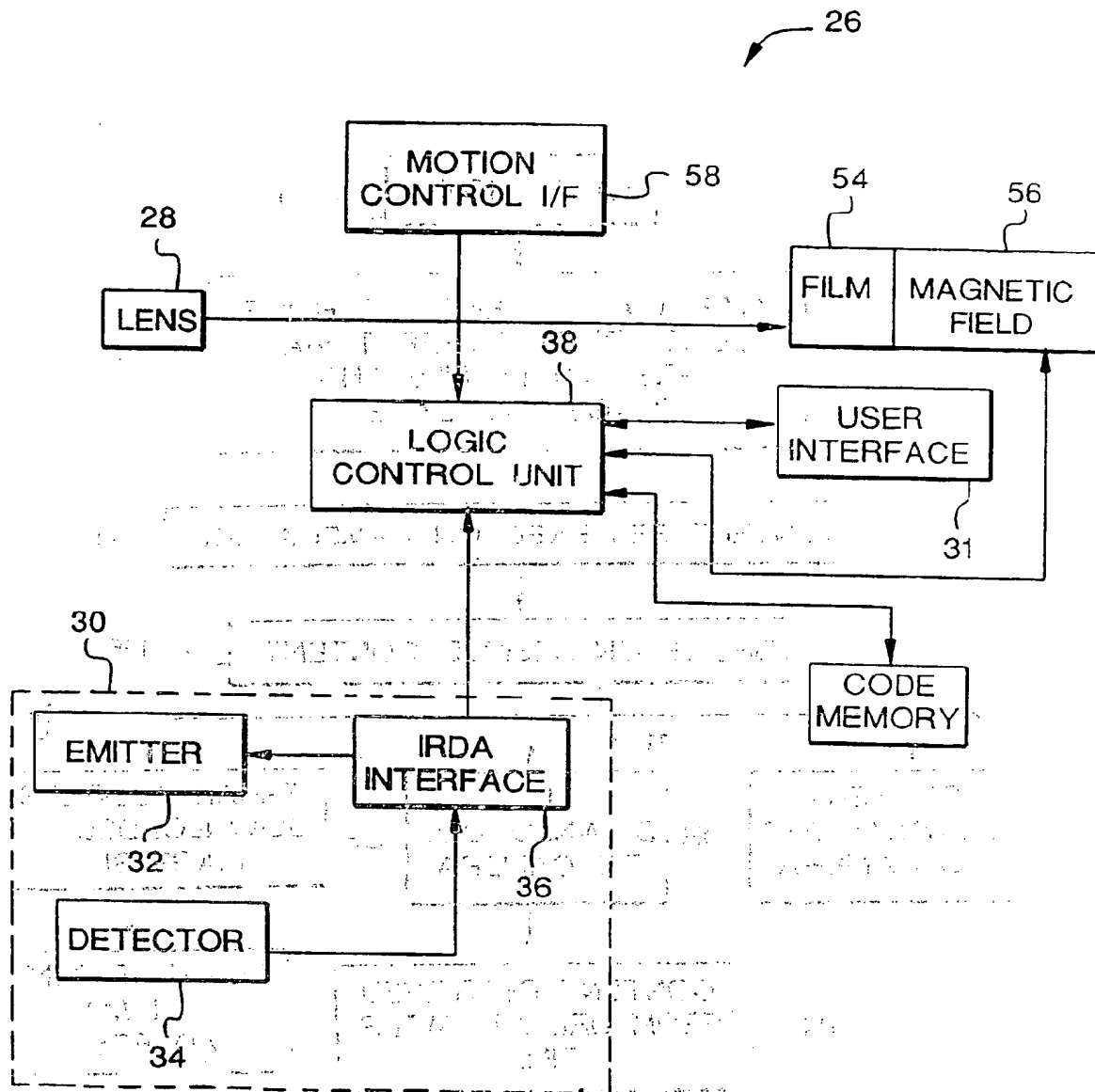


FIG. 3

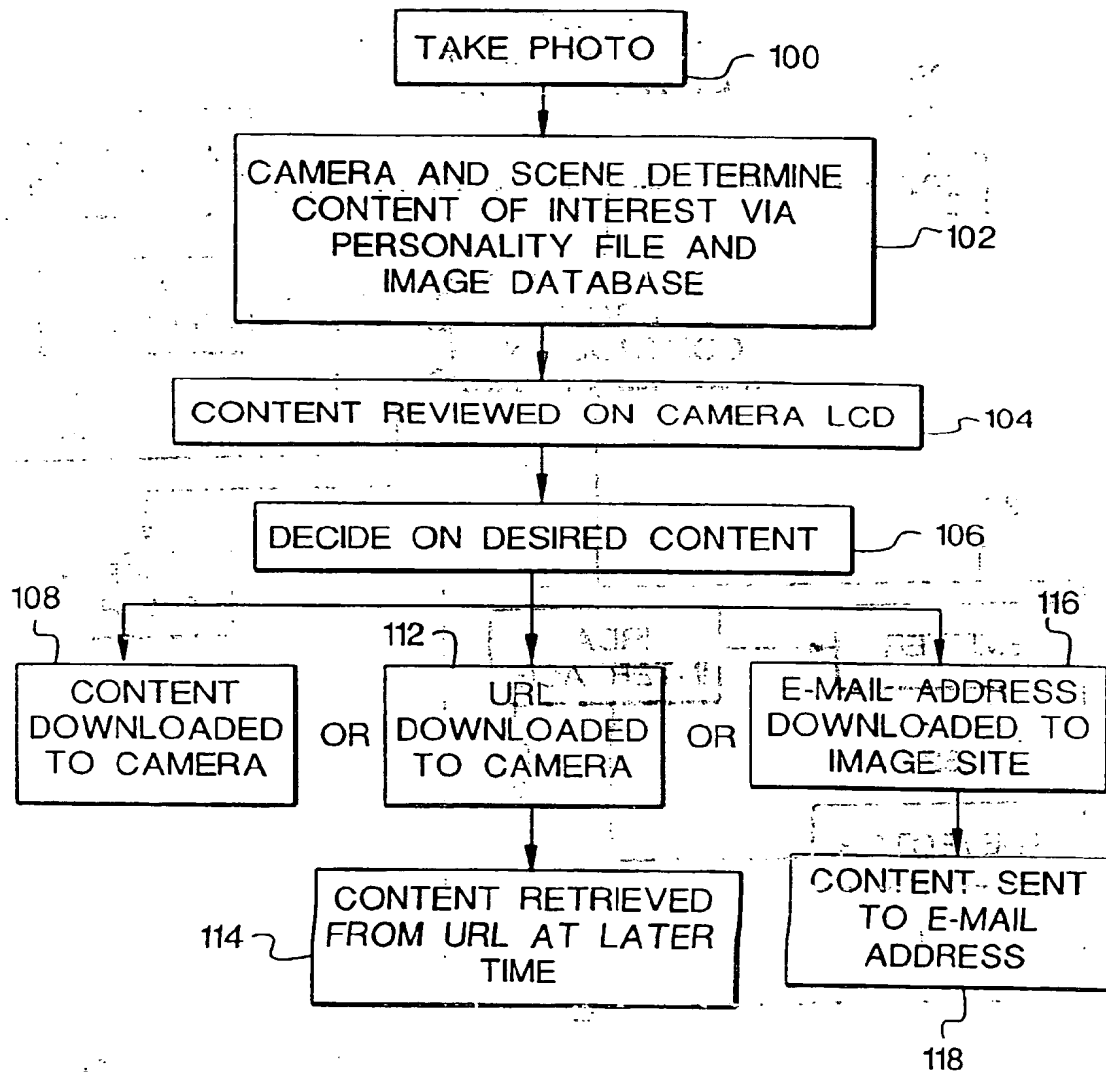


FIG. 4

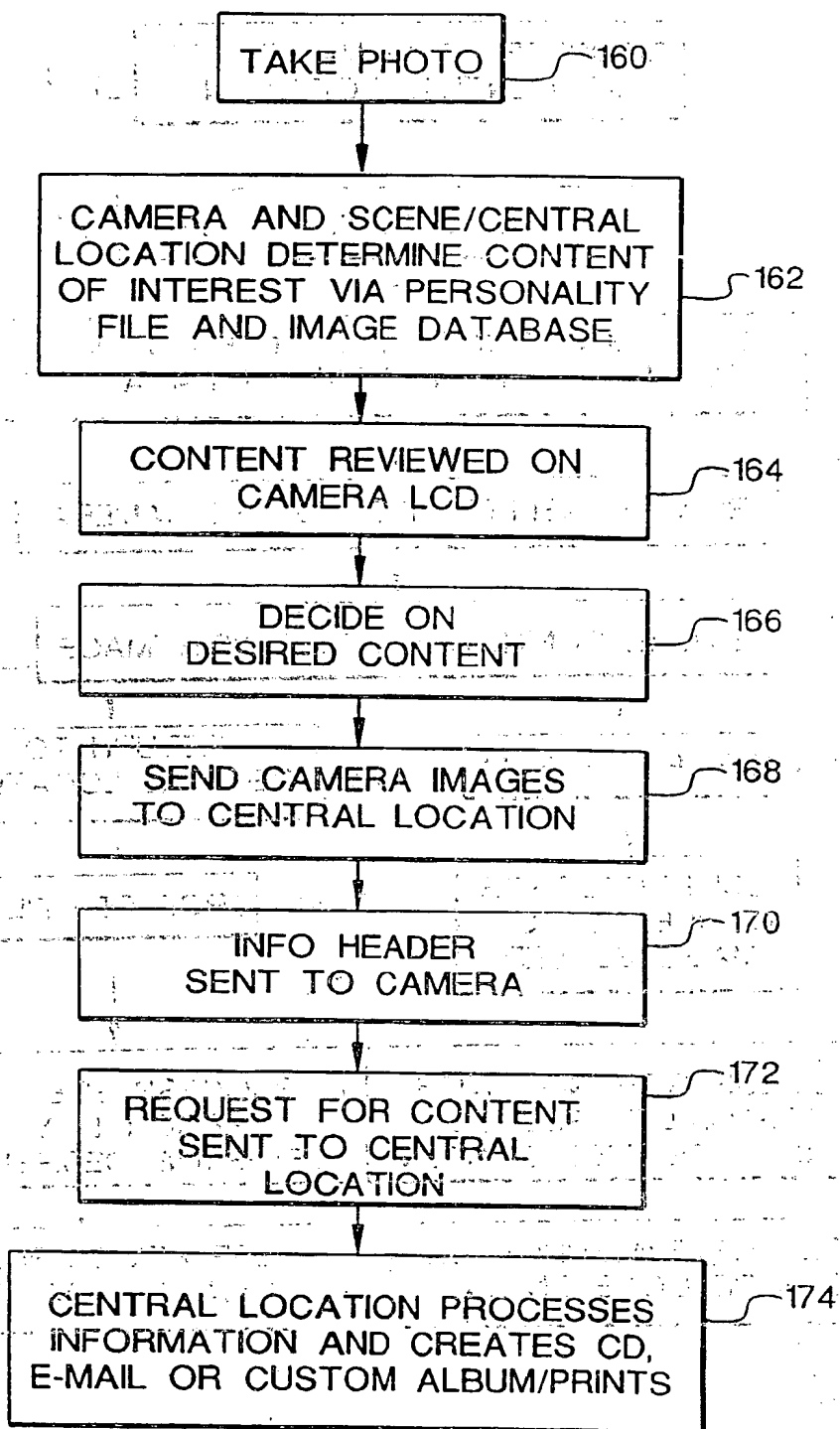


FIG. 5

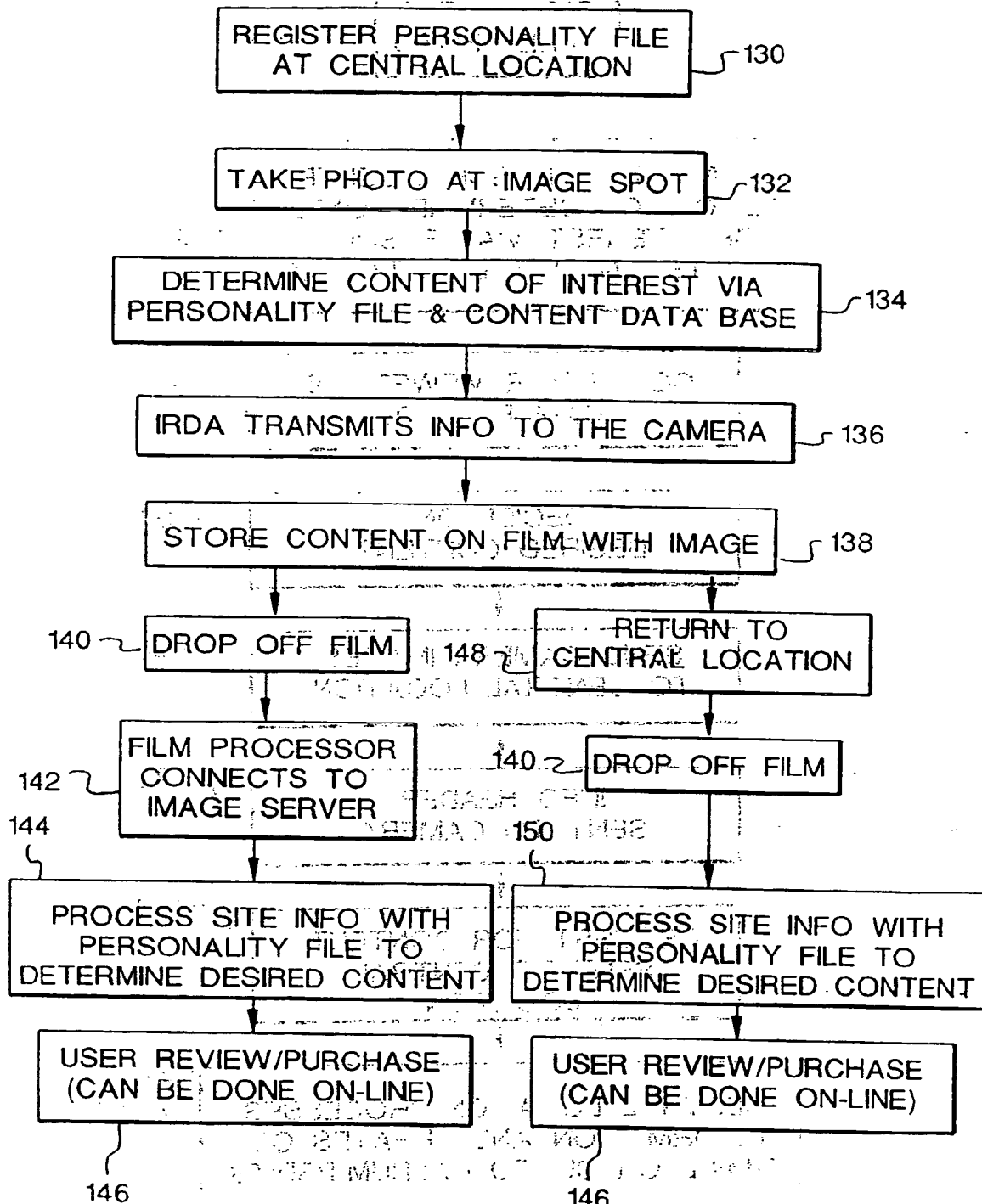


FIG. 6

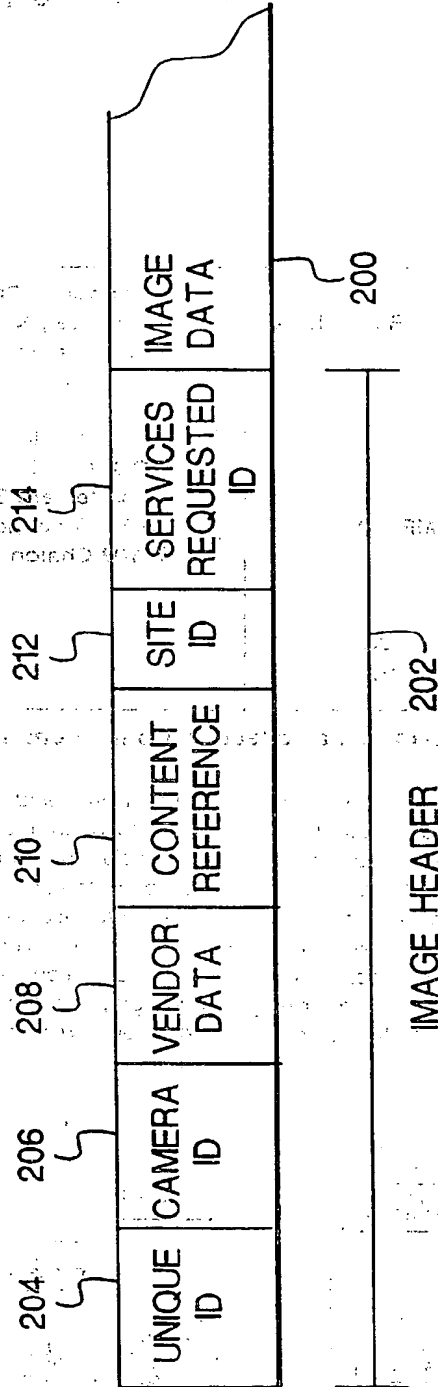


FIG. 7



EUROPEAN PATENT APPLICATION

(51) Int Cl.7: **H04N 1/00**, H04N 1/21

(43) Date of publication A2:
02.06.1999 Bulletin 1999/22

(21) Application number: 98203819.2

(22) Date of filing: 12.11.1998

- Moghadam, Omid A., c/o Eastman Kodak Co.
Rochester, New York 14650-2201 (US)
- Allen, James D., c/o Eastman Kodak Co.
Rochester, New York 14650-2201 (US)

(30) Priority: 24.11.1997 US 977383

(71) Applicant: **EASTMAN KODAK COMPANY**
Rochester, New York 14650 (US)

(74) Representative: Parent, Yves et al
KODAK INDUSTRIE,
Département Brevets,
CRT - Zone Industrielle
71102 Chalon-sur-Saône Cedex (FR)

(72) Inventors:
• Squilla, John R./o Eastman Kodak Co.
Rochester, New York 14650-2201 (US).

(54) **Photographic system involving data collection from a communicating scene**

(57) A photographic system involves the collection of data from a scene, e.g., a visitor attraction site, that is capable of interactive communication with a user. The attraction site stores content data related to the site, and the user communicates with the attraction site through a camera capable of communication with the site. Besides capturing an image associated with the site, the camera stores predetermined personality data that relates an interest of the user to at least a portion of the

content data and includes means for transferring the personality data to the attraction site. The camera further includes means for receiving and displaying the portion of the content data from the attraction site, and a user interface for selecting from the displayed content data that part which the user wants to keep. In this manner, information relevant to a user's interests about a photographed item can be easily requested, accessed and stored with the specific pictures that the user has captured.

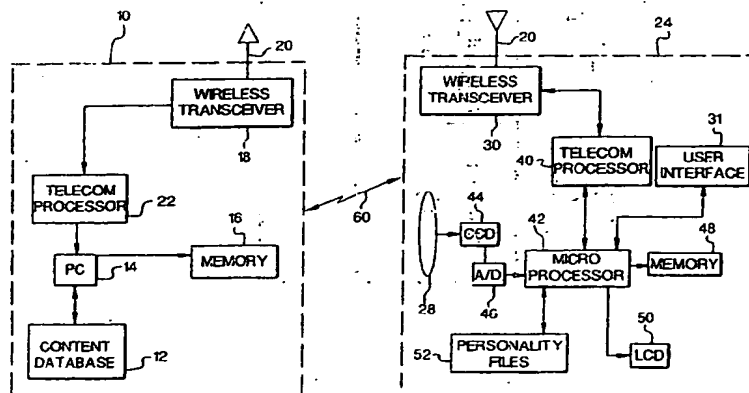


FIG. 1



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 98 20 3819

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
P,X	US 5 768 633 A (ALLEN JAMES D ET AL) 16 June 1998 (1998-06-16) * the whole document *	1-29	H04N1/00 H04N1/21
X	WO 97 26744 A (ROBB GARRY DOUGLAS) 24 July 1997 (1997-07-24)	1-8,11, 12,15 9,10,13, 14 16-29	
Y			
A	* abstract * * claims 1-6,21 *		
D,Y	EP 0 640 938 A (AT & T CORP) 1 March 1995 (1995-03-01) * abstract *	9,10	
D,Y	US 5 479 228 A (TAMAMURA HIDEO ET AL) 26 December 1995 (1995-12-26) * abstract *	13,14	
D,A	US 5 296 884 A (MORIMOTO YASUHIRO ET AL) 22 March 1994 (1994-03-22) * abstract *	1-29	TECHNICAL FIELDS SEARCHED (Int.Cl.6)
A	US 5 335 072 A (ISHIBE HIROSHI ET AL) 2 August 1994 (1994-08-02) * abstract *	1-29	H04N G06K G03B G03D G11B H04M
A	PATENT ABSTRACTS OF JAPAN vol. 1997, no. 07, 31 July 1997 (1997-07-31) & JP 09 065268-A (KYOCERA CORP), 7 March 1997 (1997-03-07) * abstract *	1-29	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 26 July 2000	Examiner Stoffers, C
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

PRO FORM 1503 03 82 (P/AC/01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 98 20 3819

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

26-07-2000

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5768633	A	16-06-1998	NONE	
WO 9726744	A	24-07-1997	AU 1363697 A CA 2243244 A CN 1208529 A EP 0875109 A	11-08-1997 24-07-1997 17-02-1999 04-11-1998
EP 0640938	A	01-03-1995	CA 2127765 A CN 1109179 A JP 7193646 A US 5694514 A US 5946444 A	25-02-1995 27-09-1995 28-07-1995 02-12-1997 31-08-1999
US 5479228	A	26-12-1995	JP 4246631 A JP 4246634 A	02-09-1992 02-09-1992
US 5296884	A	22-03-1994	JP 3247081 A	05-11-1991
US 5335072	A	02-08-1994	JP 4034311 A JP 4070724 A JP 4071069 A JP 4071070 A JP 4070725 A JP 4070726 A JP 4070288 A JP 4070727 A JP 4071068 A JP 4070728 A JP 2943263 B JP 4070729 A JP 4070730 A JP 4070731 A JP 4070732 A JP 4070733 A JP 2943264 B JP 4070734 A JP 2943265 B JP 4070735 A JP 4070225 A	05-02-1992 05-03-1992 05-03-1992 05-03-1992 05-03-1992 05-03-1992 05-03-1992 05-03-1992 05-03-1992 05-03-1992 30-08-1999 05-03-1992 05-03-1992 05-03-1992 05-03-1992 05-03-1992 30-08-1999 05-03-1992 30-08-1999 05-03-1992 05-03-1992
JP 09065268	A	07-03-1997	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. 20590

THE UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. 20590



PROSECUTION OF PATENT APPLICATION

TO THE COMMISSIONER OF PATENTS AND TRADEMARKS
WASHINGTON, D.C. 20590

FROM: [Name]
[Address]
[City, State, Zip]

RE: [Patent Number]
[Title]

DATE: [Date]

THIS PAGE BLANK (USPTO)

1. The present invention relates to a method of...
2. The method of the present invention...
3. The method of the present invention...
4. The method of the present invention...
5. The method of the present invention...
6. The method of the present invention...
7. The method of the present invention...
8. The method of the present invention...
9. The method of the present invention...
10. The method of the present invention...